CONTENTS.

Introduction,1	On the E
State of the Boston Schools,	
Boston Water Works,	Proposed
Premiums for Useful Inventions,	Lever Tru
Speculations on the Early Ages,	Great We
Fire Engines,7	Letter f
Roads in the Country,8	American
Baltimore and Ohio Rail Road,9	Disbrow's
Silk-its Growth and Manufacture,ib.	Water
Foreign Importations,11	Cooking A
Pressure of the Sea at considerable Depths, 12	Premiums
Power Press for Punching Copper,	Apprentice
Use of Soap for Setting Cutting Instru-	Choice of
ments,14	Machine
Public Sewers,ib.	Hatte
Magnetism,	Law conce
Steam Engines and Carriages,18	List of An
List of American Patents,19	Number of
Celebrated Fitch Steam-Boat,20	to 182
Enquiries; from the London Mechanics' Mag-	National V
azine,21	Excess of
Lever Trusses and Slings,ib.	Boston Sel
Gigantic Steam-Boat,24	Use of Son
Observations on the Patent Law,25	Inventions
Slate,	Dry Rot,
Massachuselts Rail Roads,28, 29, 30, 31, 32	Northern F
Rule for proportioning the Fly Wheel of a	To Readers
Steam Engine,	The New
Extract of a Letter of Mr. Jefferson's, on the	Rotary En
subject of Canals,31	Maratime (
Massachusetts Charitable Mechanic Associa-	Scientific I
tion,	Mathematic
Boston Mechanics' Institution,	ments,
Boston Society for the Diffusion of Useful	Centennial
Knowledge,ib.	Hon. J
Scientific Investigation,33	Letter from
Location of Rail Roads,34	Law of Pa
The Siik Worm,35	List of Ame
Grecian Architecture,36	Mathematic
Mathematics,	Useful Inve
Ventilation,38	Improveme
History of Canals,39	Railways a
Welding Iron and Steel,40	Printing Pr
Canada Road,41	Foundation

est despot

Pendulum es. The

much in nost useyear has be found

criptions
ry; and
rk must
neerfully
y which
fore the

of sciservices ed him as, and part of more

On the Early History of Steam and Steam
Engines, 49
Proposed Rail Road to Vermont,
Lever Trusses and Slings,46
Great Western Rail Road,
Letter from Col. Clinton,48
American Cotton,49
Disbrow's Apparatus to bore the Earth for
Water,50
Cooking Apparatus,53
Premiums for Apprentices,ib.
Apprentices' Remembrancer,ib.
Choice of Occupation54
Machine for Shaving Fur from Skins, for
Hatters' Use,
Law concerning Patents,
List of American Patents,
Number of Patents granted from the year 1790
to 1828,59
National Works,60
Excess of Estimates,
Boston Schools,
Use of Soap for Drills,ib.
Inventions,ib.
Dry Rot,63
Northern Rail Road,ib.
Γο Readers,64
The New City,
Rotary Engine,
Maratime Observations,
Scientific Investigation,
Mathematical Rule for Tuning Keyed Instru-
ments,72
Centennial Celebration, (Remarks upon, by
Hon. Judge Davis,)73
etter from Mr. Bowditch to Judge Davis, 77
aw of Patents,ib.
ist of American Patents,79
Mathematical Question,
Jseful Inventions: Encouragement of,ib.
mprovement upon an Old Machine,84
Railways and Canals,85
rinting Presses: Improvement in them,87
oundations,88

A A

The Rumford Premium,91	Damp Cellars,
Naval Architecture,92	
Scale of a Barge 23 feet long,ib.	Buildings,
Mechanics' Liens,93	
American Silk,95	To Correspondents,
Town Maps,96	Fessenden's Patent Lamp Apparatus,129
Premium of One Hundred Dollars,	Method of Computing the Power of a High
Desultory Paragraphs,ib.	Pressure Steam Engine,
Notice to Correspondents,ib.	English Patents; Improvements in Block
Mechanics' Liens,	Printing,
Stricture on Rail Roads,99	Improvement in the method of transferring
Method of Obtaining the Diameter of the	Vessels from a Higher to a Lower Level,
Circle,102	and vice versa, on Canals; and, also, for
Smoky Houses: Letter from a Subscriber,103	the more conveniently Raising or Low-
Cause and Cure for Smoky Houses,ib.	ering of Weights, Carriages, or Goods,
Railways Westward,106	on Rail Roads, etc
Railways and Canals,107	Improvement in the method of expelling
Sess-pools,108	Molasses, or Sirop, from Sugar,138
Method of obtaining a Square Board from	Filtration Upwards,ib.
one 9-6 by 15 inches,	Notes of a Course of Lectures on Mechanics,
Apprentices' Library,110	delivered by Dr. Lardner, at the Lon-
On the words Rotary, and Rotatory,ib.	don University, (continued at p. 161.)140
Steam Fire Engine,	Imperial Gallon,143
Some account of the Structure and Opera-	Pile Driving Machine,144
tion of Gurney's Steam Coach,112	Reply to the writer of the Remarks on Me-
Experiments on Resisting the Agency of	chanics' Liens,145
Fire,	Answer to the Geometrical Question, at page
Rotary Steam Engine,114	83,149
Machine for Beating and Hackling Hemp,ib.	American Patents; Improvement in the Per-
Comparison of Cost of Transportation on the	cussion Gun Lock,
Railway and Canal of the Lehigh Navi-	Machine for Grinding Flax Seed, and oth-
gation Company,	er kinds of Grain, Paints, Medicines, etc. ib.
Diagramic Types,116	Improvement in forming the Nap upon
Rumford Premium,ib.	Woollen Cloths,151
Some account of the Fund given by Dr.	Improvement in the process of finishing
Franklin, to the Inhabitants of Boston, ib.	Woollen Cloths,ib.
On the Effect of Salt in Dissolving Ice,118	For a Composition called Leather Paper, ib.
Poor House Gardens,119	On Purifying Linseed and Rape Oils,152
Method of Cleaning Pictures,ib.	Account of an extraordinary adhesion of the
Ginger Beer Powders,120	Safety Valve of a Steam-Boat Boiler, 153
Oil for Watch Makers,ib.	View of Bunker Hill Monument,154
Chrome Orange,ib.	View of the Public Square, and surround-
Schweinfurt Blue,ib.	ing Ground as laid out in building lots, 155
Volatile Oil,ib.	Some account of the Management of the
Report of the Boston Mechanics' Institution, 121	Concerns of the Monument,156
List of its Officers,122	Water,157
Ships Foundering at Sea,	Manufacture of Pins,158
Effects of Refraction,ib.	Decomposition of Water,160
Mathematical Question,ib.	Mathematical Questions,ib.
Pipes for Beer,ib.	Inquiry,ib.
Imperial Gallon,ib.	Dr. Lardner's Lectures on Mechanics, con-
Brazillian Barge,	tinued from page 143, (continued at p.
Method of Computing the Power of a High	193,)
Pressure Steam Engine,	Rail Roads and Canals,
Swift Sailing,	Freedom of the Mind,
Early Rising,127	Blow-Pipe Simplified,170
Boston Society for the Diffusion of Useful	Stone Butter,
Knowledge,128	Greenland Lamps and Kettles,ib.
	or comming manips and arethospic

.....ib.129 High132 Block134

evel, , for

ods,135 ling138ib. nics,

)..140143144 Me-....145 age ...149 er-...150

tc. ib.
on
...151
ng
...ib.
...152
ne
...153
...154
l...155
ne
...156

.157 .158

.ib. .ib.

Animal Weather Glass,	Schools,
An Effectual Means of Curing a Cut, Bruise,	Boston and New York,ib.
or Burn,ib.	The City and a Rail Road,ib.
Notes on the Explosions of Boilers of Steam	Town and Country,
Engines, by M. Arago,171	Dividing Plate for a Lathe,201
Examples of the most violent explosions	On the Manufacturing of Indigo,
which have taken place up to this time, ib.	Charles Carrol, of Carrolton, and the Balti-
Second example, characterized by the sim-	more and Ohio Rail Road,
ultaneous explosion of several boilers, 172	Notice and Description of a Marine Ventila-
Explosions caused by overloading the	tor,
safety valve,ib.	Magnetic Influence of the Violet Ray,208 Gold and Platina,
Explosions preceded by a great decrease in the tension of the steam,	M. Arago's Notes on the Explosions of Boil-
Explosions immediately preceded by the	ers, concluded from page 180,209
opening of the safety valve,ib.	On the Effects of blowing Hot and Cold Air
Rending of boilers by a pressure from with-	into Furnaces,217
out,	Combination of Alkalies, in the Formation of
Accidents peculiar to boilers with interior	Soap,219
flues,ib.	Boston Rail Road Meeting,ib.
Explosion preceded by the boiler becom-	Claxton's Decimal Tables for Practical Men, ib.
ing too highly heated,175	Letter from the Committee of the New-Eng-
Explosion of a boiler in the airib.	land Society, for the Promotion of Man-
Necessity of providing safety valves; safe-	ufactures and the Mechanic Arts, to the
ty valve of Papin,	Franklin Institute,
Plates of fusible metal,177	On the Formation of Steel by means of Silica, 221
Thin plates,178	Easy way of breaking Glass in any direction, ib.
Guage valve,ib.	German Silver,
Internal, or air valves; their object, (contin-	Answer to Mathematical Question, No. 2, at
ued at p. 109.)	р. 160,
Filtered Water,	Amount of money expended in each State
Linear Conductors of Sound,	and Territory, by the United States,
Mechanic Arts in China,184	upon Works of Internal Improvement,
Hydrophobia,ib.	from the adoption of the Federal Consti-
Boston Rail Road Meeting,186	tution to the 1st Day of October, 1828, ib.
Rotary Engine,187	Chilled cast Iron for Punches,223
Cement for Hard Stone, Porcelain, and Glass, ib.	Cutting Tools of Cast Steel,ib.
Instantaneous Light Apparatus,ib.	Instructions for Lackering, and 1e-Lackering
Cleansing Sewers,ib.	Brass,ib.
Iron Works of Sweden,	Lacker for Tin,294
Anthracite, an important Ingredient in the	Method of procuring good Yeast,
manufacture of Bricks,ib.	Automaton Chess Player,ib.
The Electrophorus,	Dr. Lardner's Lectures on Mechanics, con-
	tinued from page 198, (continued at p.
St. Lawrence,	257.)
do. Clock,	Water and the Syphon,
Plumbago, instead of Oil, in Watches, etcib.	Working in Lead,
Pantouranion,ib.	Safe Ships and Steamers,237
Native Silver from the mines of Pascoib.	Crane's Improved Town Clock,238
Soap Boiling: inquiries concerning it,ib.	Memoir of Ferguson,239
Answer to Mathematical Question, at p. 123, ib.	A Safe Chaise,240
Singular Explosion,	Watt's Machine for making Sculptures,ib.
Acid, its use in Attrition,ib.	Chemistry.—Of the Metals,241
Mathematical Questions,ib.	General Table of the Metals,
Answer to Question, 1, at p. 160,ib.	Of the Properties of Gold, (continued at p.
Dr. Lardner's Lectures on Mechanics, contin-	265.)
ued from page 165, (continued at p. 225.) 193	Railways and Canals,b.

Air Pump Simplified,245	American Calicoes,
Safety Pump, for Detecting and Removing	Water Proof Cloth,ib.
the noxious Gas found in Wells,246	Volcano,
French method of preserving Butter,247	Yellow Dye from Potatoes,
Notice of an Improved Water Wheel,ib.	Anatomical Model,
To build Stone Walls in Deep Water, 248	Mount Arrarat,287
Gunnery in the Early Ages,249	New Bread,ib.
Alcohol—its Properties,252	Protraction of Vegetable Life,
Tempering of Steel,ib.	Imitative Gold,ib.
Franconia Iron Works,253	Butter,
Compound Linseed Oil, &c. for Painters' use, 254	Dandelion Coffee,
Combustion of Ashes,ib.	Wine from unripe Grapes,
Extraordinary descent in a Diving Bell, 255	New Food for Silk Worms,
Bug in the Ear,ib.	Extract of Pennyroyal,ib.
Spoutaneous Combustion,ib.	Notices of the Meetings, for Lectures, of the
Dioptra,ib.	Massachusetts Charitable Mechanic As-
To remove a tight Stopper from a Decan-	sociation; Boston Mechanics' Institu-
ter,	tion; Boston Lyceum; and Boston Socie-
Alkanet-its chief use,ib.	ty for the Diffusion of Useful Knowledge, 288
Inquiries concerning the formation of Soap, ib.	Lester's Pendulum Engine, concluded,289
How to prevent Iron Rails from drawing out	Certificates to Lester's Engine; by Mr.
of the Posts, from contraction by Frost,	Noah Butts,
and to remedy the contraction of Iron	By Col. Baldwin,
Tubes,ib.	By Capt. Alexander Parris,
Pile Driving,ib.	By Messrs. Battles, Andem, Perham, Beck-
Quere—respecting Pile Driving,ib.	ford, Butts, Baker, Bates, and Turner, 292
Dr. Lardner's Lectures on Mechanics, con-	By Richard D. Harris, Esqib.
cluded,257	By Mr. George H. Kuhn,
Paving,	By Mr. Thomas Barrows,ib.
Mineral Fusible Cement,	By the Rev. Enoch Burt,
ChemistryOf the Metals, (continued from	Comment upon Mr. Lester's Engine, by a
р. 243.)	Correspondent,294
Of the Properties of Gold,ib.	Practical Science,
" " Platina, (continued at	Railways and Canals,
p. 305.)	Biographical Memoir of Count Rumford,300
Privies,269	Damps,
Important Suggestions,	Ingenious Rail Road and Car,304
Combustion of Ashes,ib.	Formation of Mineral Coal,ib.
Lamp to Burn under Water,272	A hint to the Proprietors of Bridges,305
Lester's Pendulum Engine,	Chemistry.—Of the Metals, (continued from
Safety of Steam-Boats,277	p. 269.)ib.
Vegetable Extract,	Of the Properties of Silver,ib.
Diagrams explanatory of the method of ob-	" " Palladium,308
taining the angle of Stove-Pipe,280	" " Mercury, (continued
Communication on the above subject,281	at p. 324.)
American Patents ; Improvement in the mode	The American Almanac,310
of laying the Foundation of Marine Rail-	Density of the Earth,ib.
ways under Water,ib.	Temperature of the Interior of the Earth 311
For a Machine for lifting Ships, or Vessels,	Singular Application of Heat,ib.
out of the Water,	Formation of Waves,ib.
Premature Explosions,	Rail Roads in Schuylkill County,312
Cement from Iron Filings,284	Engraving, Mezzotinto,313
Concentration of Sound,ib.	Etching,
Dr. Mitchell's method of working Caoutchouc, ib.	" On Steel,ib.
Detection of Alloy in Silver by the Magnet-	on Precious Stones,ib.
ic Needle,	" On Wood,315
Alloy for the construction of Cocks and Pumps, ib.	Hydrogen Gas,ib.
Cement for Iron Water Pipes,ib.	Vitality of Matter,
	valuately Of Practically

Transferri	ng of Prints to the Surface of	Intense Light,
	, and either reversing them or not,	Oil for Clocks, and other delicate machinery, il
and on	making and applying Hard White	Corn Cobs,il
	Varnish,316	Process of Browning Gun-barrels,
Test for the	e Detection of Whiting in Flour, 320	Improved process for gilding Iron or Steel, ib
	Stage Coaches,ib	
	Question,ib	
Interesting	Experiments with Canal Boats, 321	Simple Remedy to Purify Water,il
Improved I	Hoisting Machine,325	Painting Houses,il
	Of the Metals, (continued from	Cider,ib
р. 310	.)391	
	roperties of Mercury,ib	
42 44	" Copper, (continued at	Mathematical Questionsib
р. 354.	.)326	The state of the s
	realis,328	
Effects of 8	Sea-Air,330	
Cryptograp	hy,ib.	Chemistry.—Of the Metals, (continued from
	Leaden Pipes,	
	cal Electricity,ib.	Of the Properties of Copper,ib
	om Mauch Chunk Coal-Mine, 334	" " " Iron,350
	Sound,	" " Tin,357
	Echoes,336	Springs and Artificial Fountains,358
	of Steam-Boilers,337	Plate; Theory of Springs and Fountains, 363
American F	Patents; For a Rotary Pump, to be	New York Canal Tolls,
	r the Raising or Forcing of Water,	Lead produced at the United States' Lead
	ner Liquids,338	Mines,364
	nent in Flouring Mills,340	Steam-Boat Tonnage in the different States, ib.
	nents in the mode of making and	Large Burning Glass,ib.
	cturing Crackers, Ship, Pilot, or	Effect of Odoriferous Effluvia on Insects,365
	Bread, etc341	Compressibility of Liquids and other Fluids, ib.
	nents in Churns,345, 346	Remarks upon the Patent Office,367
	e De la Hire Pump,340	Metallic Lettering of Signs,ib.
	tents; for a Method of making,	Privies,—communication in answer to "Ster-
-	ufacturing Candles,342	colanus," upon the same subject,368
	in improvements in Watches and	Improved Drawing Pen,ib.
Acres -	epers,ib.	Vitality of Matter,—communication in reply
	tion for preserving Decked Ships,	to an article from Professor Silliman's
	els, from the Dry Rot, and for pre-	Journal, upon the same subject,369
	Goods on board wet Ships, or ves-	Economical Oven,
-	om damage by Heat,344	Premium of the Baltimore and Ohio Rail
	nvention,	Road Company, for the most approved
	ention, by John George, (Eng-	Engine,
	345	Expansion,
	on the multiplicity of Patents,344	Caution to Workers in Metal,376
	Improved Churns,345, 346	Gas, and Gas Lights,
		Oxygen Gas,ib.
	plosion,	Nitrogen Gas,ib.
	ib.	Hydrogen Gas,ib.
	arls,348	Nitrous Gas,ib-
	the Delaware Division of the	Carbonie Acid Gas,ib.
-	lvania Canal,349	Carburetted Hydrogen Gas,379
	of the Connecticut,ib.	Ice kept from Melting by Red Hot Lava,ib.
-		Microscopic Views of Spiders Weaving
	Steam Fraine Tein	their Webs,380
	Steam Engine Trip,ib.	Natural Philosophy
	valuable Manure,ib.	The Viper's Fang381
-	rength,ib.	Spontaneous Combustion,
	New for the Antiquarian,ib.	Receipt for Fat Oil Varnish,382
omguar Dis	covery,350	Receipt for Fat On varnish,

ib. ib.

09 10 ib. 11 ib. ib. 2 3 4 5.

:du

Patiendo

Receipt	for	Black Varnish, for Coaches and Iron Work	Receipt for Shell-lac Varnish,
44 . *	66		Mode of Drying Damp Walls,
	4		Method of removing Warts,
46	44	a Varnish for Toilet Boxes, Ca-	Projectiles - Extraordinary,
		ses, Fans, etcib.	Navigation of the Ohio,
66	"	a Varnish for Violins, and other	Misstatement of "A Friend to Real Im-
		Musical Instruments,ib.	provement" corrected,
44	66	Seed-lac Varnishib.	